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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,874

02/08/2006

Shigeru Nishio

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EXAMINER

GARCIA JR, RENE

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/567,874	<b>Applicant(s)</b> NISHIO ET AL.	
	<b>Examiner</b> RENE GARCIA JR	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 6 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. Applicant has requested consideration for IDS filed on 19 May 2008, however no such record exist for an IDS being filed. The only record present regarding any document being filed on or around 19 May 2008 is a Request for Corrected Filing Receipt. Applicant is requested to verify and resubmit any further IDS if there is an IDS missing from the record. Examiner has performed a check to see if any other IDS's are present, attached with other documents listed of record, but has found none other than those previously considered (03/08/06 and 06/27/06).

### ***Claim Objections***

2. Claims 1 and 2 recite the limitation "the electrode section"; wherein amendment to claim 1 has changed "the electrode section" to "a driving electrode", it is advised to change limitations to reflect this. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Naruse et al. (JP 01-200965).

**Naruse et al. discloses the following claimed limitations:**

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\*regarding claim 1, electrostatic suction type fluid discharge device/**head, 1/** which discharges by electrostatic suction a discharge fluid/**ink/**, which is electrically charged by voltage application, onto a substrate through a fluid discharge hole of a nozzle/**nozzle, 3a/** of a fluid discharge head/**1/**, so as to form a drawing pattern on a surface of the substrate, the fluid discharge hole, provided in the nozzle/**3a/**, having a diameter ranging from 0.01  $\mu\text{m}$  to 25  $\mu\text{m}$  the electrostatic suction type fluid discharge device comprising: (fig. 1, 2; ABS)

\*driving electrode/**electric conductor treatment, 3c/** for carrying out application of a driving voltage, by contacting the discharge fluid/**ink/**, in order to cause an electric charge to be supplied to the discharge fluid/**ink/**, so as to charge the discharge fluid/**ink/**, the electrode section/**3c/** being formed by coating an external wall of the nozzle/**3a/** with a conductive material/**3c/** (fig. 1, 2; ABS)

\*regarding claim 2, electrode section/**3c/** constitutes at least a part of inner wall of the nozzle/**3a/** (Fig. 2; ABS)

\*regarding claim 3, nozzle/**3a/** having a tip made of a conductive material/**electric conductor treatment, 3c/**, the tip serving as an electrode section for applying a drive voltage to electrically charge the discharge fluid/**ink/** (Fig. 2; ABS)

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 4, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse et al. (JP 01-200965 in view of Kato et al. (JP 2002-172786).

**Naruse et al. discloses the following claim limitations:**

\*regarding claim 3, electrostatic suction type fluid discharge device/**head, 1/** which discharges by electrostatic suction a discharge fluid/**ink/**, which is electrically charged by voltage application, onto a substrate through a fluid discharge hole of a nozzle/**nozzle, 3a/** of a fluid discharge head/**1/**, so as to form a drawing pattern on a surface of the substrate, the nozzle/**3a/** having a tip made of a conductive material/**electric conductor treatment, 3c/**, the tip serving as an electrode section for applying a drive voltage to electrically charge the discharge fluid/**ink/** (fig. 1, 2; ABS)

**Naruse et al. does not disclose the following claimed limitations:**

\*regarding claim 3, fluid discharge hole, provided in the nozzle, having a diameter ranging from 0.01  $\mu\text{m}$  to 25  $\mu\text{m}$

\*regarding claim 4, pressure applying means for applying a pressure into the nozzle

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\*regarding claim 8, nozzle is made of glass and the driving electrode coats the glass

**Kato et al. teaches the following:**

\*regarding claim 3, fluid discharge hole/**ink passage, 9/**, provided in the nozzle/**10/**, having a diameter ranging from 0.01  $\mu\text{m}$  to 25  $\mu\text{m}$  ( $\text{\P}0005$ )

\*regarding claim 4, pressure applying means for applying a pressure into the nozzle ( $\text{\P}0011$ ; inherent feature of supply ink to ink passage/9/ via passage/8/ - ink *supplied* from connecting tube/3/)

\*regarding claim 8, nozzle/**10/** is made of glass and the driving electrode/**7/** coats the glass ( $\text{\P}0007$ ; further background in  $\text{\P}0005$ -0007)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize a fluid discharge hole, provided in the nozzle, having a diameter ranging from 0.01  $\mu\text{m}$  to 25  $\mu\text{m}$ ; pressure applying means for applying a pressure into the nozzle; and a nozzle made of glass and the driving electrode coats the glass as taught by Kato et al. into Naruse et al. for the purpose of ejection of ink to a substrate. Electrode/7/ of Kato et al. coats an interior, however obvious to a person having skill in the art that coating an interior or exterior is relevant to the concept of interaction between the coating component and the nozzle component, therefore relevant to utilization in Naruse et al..

***Response to Arguments***

7. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection. Naruse et al. teaches a head including an electrode coating an exterior surface and interior surface of a nozzle orifice of the head. Kato et al. further teaches the dimensions of a nozzle passage using electrostatic means to eject ink from a nozzle.

8. Applicant has further commented on the manufacture constraints, in a general form and not specific to claim limitations, more specifically the difficulty to form such a discharge hole with a diameter within a specified range, see page 11 of Remarks. It is therefore important to inform applicant, that with regards to claim 1 no patentable weight has been given to the discharge hole diameter. The discharge hole diameter limitations have been presented in the preamble of the claim and not further incorporated into the body of the claim, therefore no formal rejection has been presented. In anticipation of and to expedite prosecution, should applicant choose to incorporate limitations regarding discharge hole diameter into body of the claim, it is noted that a rejection of such limitations would be pursued in accordance with the rejection of claim 3.

9. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

***Allowable Subject Matter***

10. Claims 5 and 6 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The primary reason for indicating allowable subject matter of claims 5 and 6 is the inclusion of the limitation of a electrostatic suction type fluid discharge device including electrode section is formed as a bar inserted into the nozzle and a ***tip of the electrode section is in contact with the inner wall of the taper section***. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of



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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Communication with the USPTO***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RENE GARCIA JR whose telephone number is (571)272-5980. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. G./  
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/Stephen D Meier/

Supervisory Patent Examiner, Art Unit 2853